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W. Evans

Dated 24 March 2004

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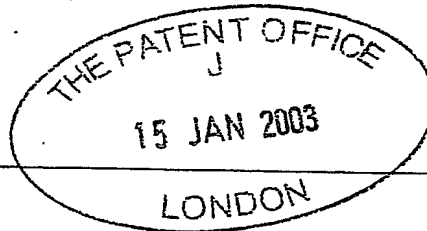
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16JAN03 E777346-1 047678
PDI/7700 0.00-0300918.0

Request for grant of a patent

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The Patent Office

Cardiff Road
Newport
South Wales
NP10 8QQ

1. Your reference

2. Patent application number
(The Patent Office will fill in this part)

0300918.0

3. Full name, address and postcode of the or of each applicant (underline all surnames)

SEAN D'URBAN JACKSON
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WIMBLEDON
LONDON
SW19 1PQ

Patents ADP number (if you know it)

If the applicant is a corporate body, give the country/state of its incorporation

3991916001

4. Title of the invention

MULTI-FUNCTIONAL DISPLAY PANEL COMBINING INTERLOCKING PANEL COUPLINGS.

5. Name of your agent (if you have one)

"Address for service" in the United Kingdom to which all correspondence should be sent (including the postcode)

Patents ADP number (if you know it)

6. If you are declaring priority from one or more earlier patent applications, give the country and the date of filing of the or of each of these earlier applications and (if you know it) the or each application number

Country

Priority application number
(if you know it)

Date of filing
(day / month / year)

7. If this application is divided or otherwise derived from an earlier UK application, give the number and the filing date of the earlier application

Number of earlier application

Date of filing
(day / month / year)

8. Is a statement of inventorship and of right to grant of a patent required in support of this request? (Answer 'Yes' if:

- a) any applicant named in part 3 is not an inventor, or
 - b) there is an inventor who is not named as an applicant, or
 - c) any named applicant is a corporate body.
- See note (d))

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Patents Form 1/77

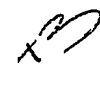
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Continuation sheets of this form

Description 3

Claim(s)

Abstract

Drawing(s) 3 

10. If you are also filing any of the following, state how many against each item.

Priority documents

Translations of priority documents

Statement of inventorship and right to-grant of a patent (Patents Form 7/77)

Request for preliminary examination and search (Patents Form 9/77)

Request for substantive examination (Patents Form 10/77)

Any other documents
(please specify)

11. SEAN D'URBAN JACKSON

I/we request the grant of a patent on the basis of this application.

Signature



Date 14/1/03.

12. Name and daytime telephone number of person to contact in the United Kingdom

SEAN D'URBAN JACKSON
020 8540 7158

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MULTI-FUNCTIONAL DISPLAY PANEL COMBINING INTERLOCKING PANEL COUPLINGS

BACKGROUND OF THE INVENTION

Field of the invention

This invention relates to a multi-functional display panel conjoined with interlocking panel couplings that can be used to self-assemble multi-panel display structures for a variety of purposes. When used to display literature and merchandise, the panel acts as a mounting frame to which a variety of mountable fixings can be attached, including attachments to hold leaflets, cards, notices, pictures, merchandise, accessories, electrical and electronic fittings. The display panel has applications for lighting and decorative designs as well as picture framing.

The panels combine an interlocking hinge coupling on their vertical edges, that forms a continuous, rotatable connection along two adjacent panel vertical edges. Interlocking connectors on two adjacent panel horizontal edges enable panels to be locked together vertically. This connectivity enables a person to design and self-assemble multi-dimensional display structures from the panels. Modern materials particularly plastics, in the form of easily self-assembled panels provide the ideal building medium for creative contemporary display and decorative designs.

Description of the Prior Art

Display system units for leaflets, notices, cards and merchandise are well known but are generally pre-fabricated and are either constructed on site in a fixed format, or are purchased from suppliers in pre-designed formats that may not exactly suit the particular requirements of a user. Individual display panels are not generally designed or available to be combined to form a purpose-built, conformable, unified display structure.

SUMMARY OF THE INVENTION

The object of the present invention is to give the user the freedom and flexibility to design a display system or similar panel design structure employing the use of panels that can be interlocked to suit the user's particular requirements in a variety of formats and to self-assemble the same. Display panels can be added, changed, or replaced as part of a self-assembly display system.

Accordingly, the present invention provides a single panel, ideally manufactured from plastics materials that combines along the length one of its vertical sides, a male coupling and along the length of the opposite vertical edge, a female coupling. Multiple panels can then be snap-fitted together along their vertical edges to form a continuous interlocking hinged joint between them. The hinged joint can be rotated within a range without dislocation or disengagement. The range of rotation allows panels to be interlocked in a variety of flat and three-dimensional structures.

The panels incorporate additional interlocking male and female connectors on their horizontal edges. These connectors enable panels to be locked together in a vertical position or enable them to be attached to supports from their horizontal edges.

By combining hinged connectors that interlock on the panel's vertical axes with locking connectors on their horizontal axes, multiple panels can be joined and displayed in a variety of multi-dimensional formats to suit the requirements of the user. Additionally, the vertical and horizontal panel connectors can be made to function as shielded electrical circuits for lighting purposes or for the addition of electrical and electronic accessories.

Each panel embodies various fitting channels or mounting positions that enable the panels to accommodate a variety of presentation attachments, such as leaflet dispensers, card holders, merchandise, accessories, pictures, frames, electrical and electronic fittings or other decorative attachments.

Panels further embody connection housings to attach support structures. For example to attach a panel or a display to a flat surface such as a wall, to support a free standing panel or a display structure in a fixed or mobile position, and to enable a panel or a display structure to be suspended.

BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 shows the top or bottom cross-section of a display panel combining the preferred interlocking couplings on its connecting edges

Fig. 2 shows the face of the mountable panel combining its preferred, integrated, continuous male and female vertical edge couplings

Figs. 3 and 4 show a cross-section of the preferred male and female edge moulded couplings prior to being interlocked

Fig. 5 shows a cross-section of the moulded couplings that are conjoined to adjacent panel edges interlocked at 180 Deg.

Fig. 6 shows a cross-section of the moulded couplings that are conjoined to adjacent panel edges interlocked at 120 Deg.

Fig. 7 shows a cross-section of the moulded couplings that are conjoined to adjacent panel edges interlocked at 60 Deg.

Fig. 8 shows a cross-section of three panels with conjoined interlocking couplings to form a triangular polygon

Fig. 9 shows an elevation of three panels with conjoined interlocking couplings to form a triangular polygon

DESCRIPTION OF THE PREFERRED EMBODIMENTS

A preferred embodiment of the invention will now be described with reference to the accompanying drawings.

The invention comprises a display panel, Fig 2 which can be used as a mounting frame for a variety of mountable attachments, that has conjoined along its vertical edges, a male coupling on the one side, 1 and a female coupling on the opposite side, 2 which when paired with a matching panel edge, Fig 3 and Fig 4, the couplings snap-fit together to form a continuous, interlocking, vertical, hinged connection between the adjoining panels, 3. The male and female couplings are positioned to snap together at about their minimum adjoining angle, Fig 7 and can be rotated to numerous other angles, Figs 5, 6. The male and female couplings are interlocked, 3 throughout their rotation which prevents the adjoining panels from dislocating or disengaging. This hinged connection enables multiple panels to be joined together into numerous multi-panel structural

formats, including triangular, Fig 8 and Fig 9 and multi-faceted polygons as well as flat and other three dimensional panel formats.

The panel incorporates additional interlocking male and female connectors on its horizontal edges, Fig 1, 4 at opposite ends, to connect panels together in a vertical format or enable them to be attached to supports from their horizontal edges.

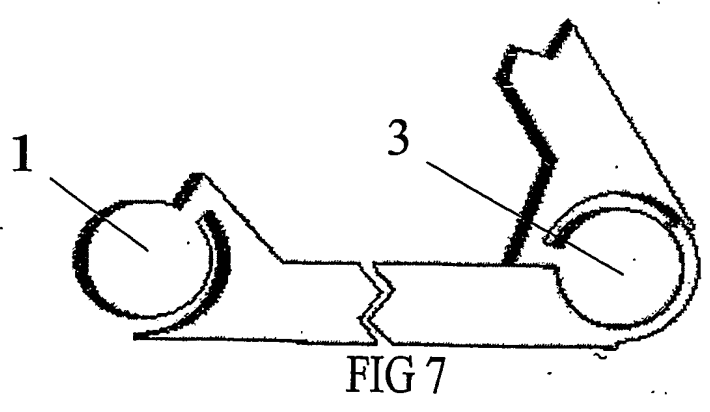
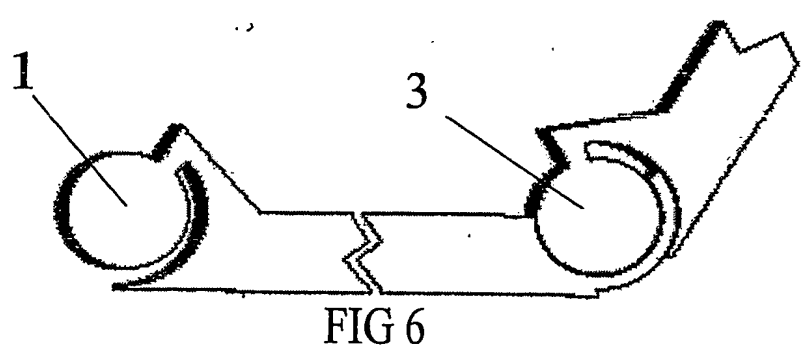
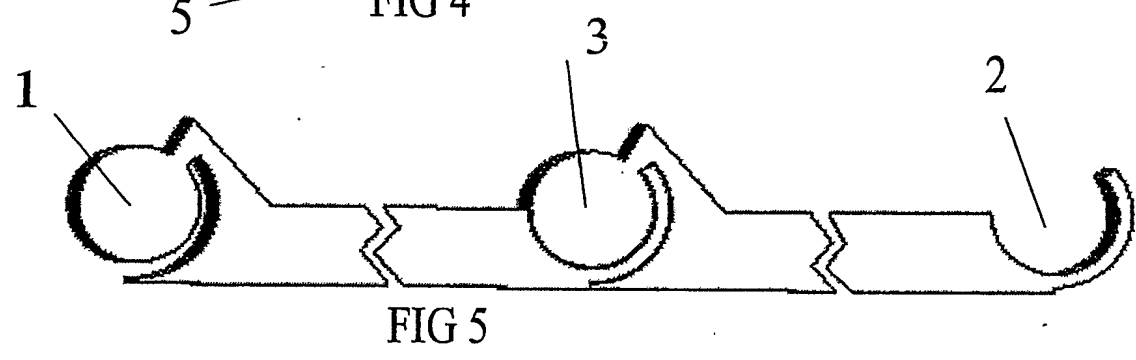
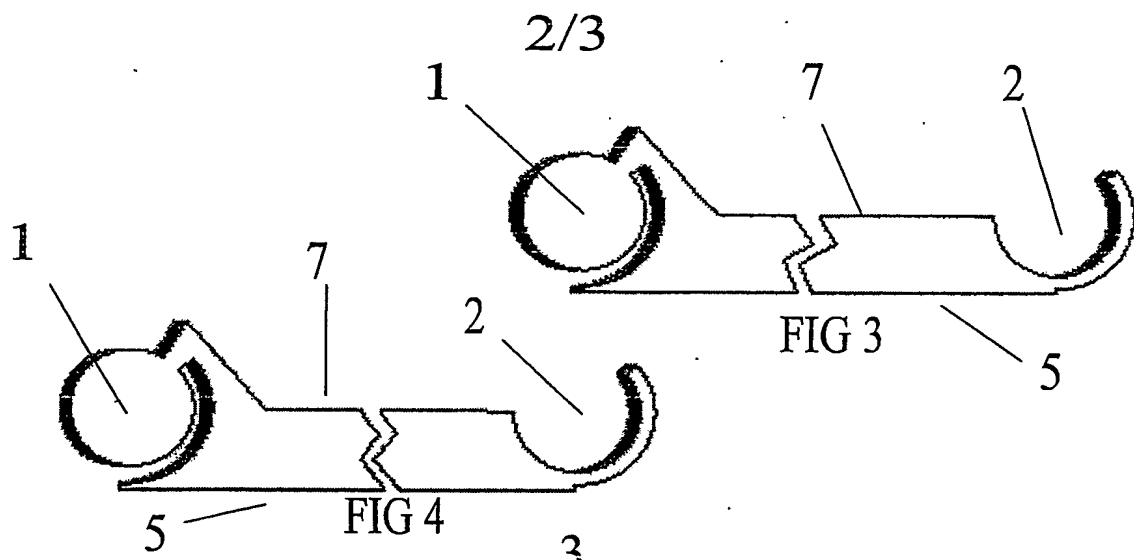
The mountable display panel, 5 embodies mounting connectors, 6 in various positions that can be used to mount a variety of attachments to the panel such as logos, leaflet dispensers, card holders, merchandise holders, hooks for accessories, pictures and frames, lighting, and electronic fittings.

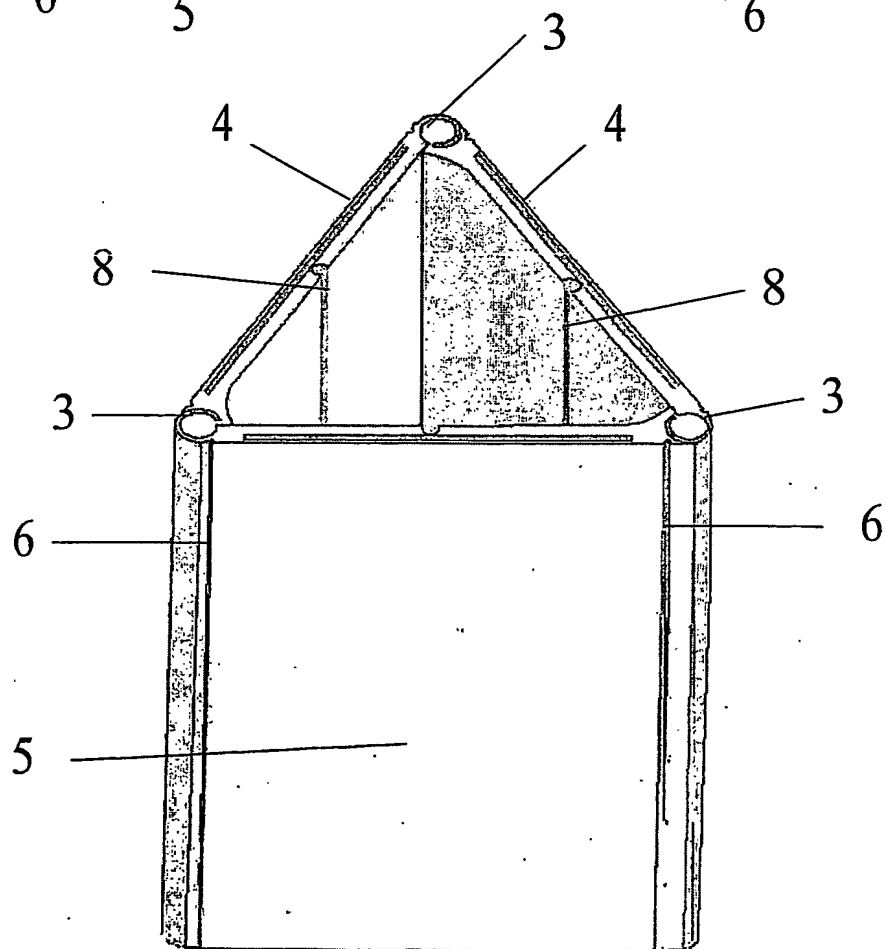
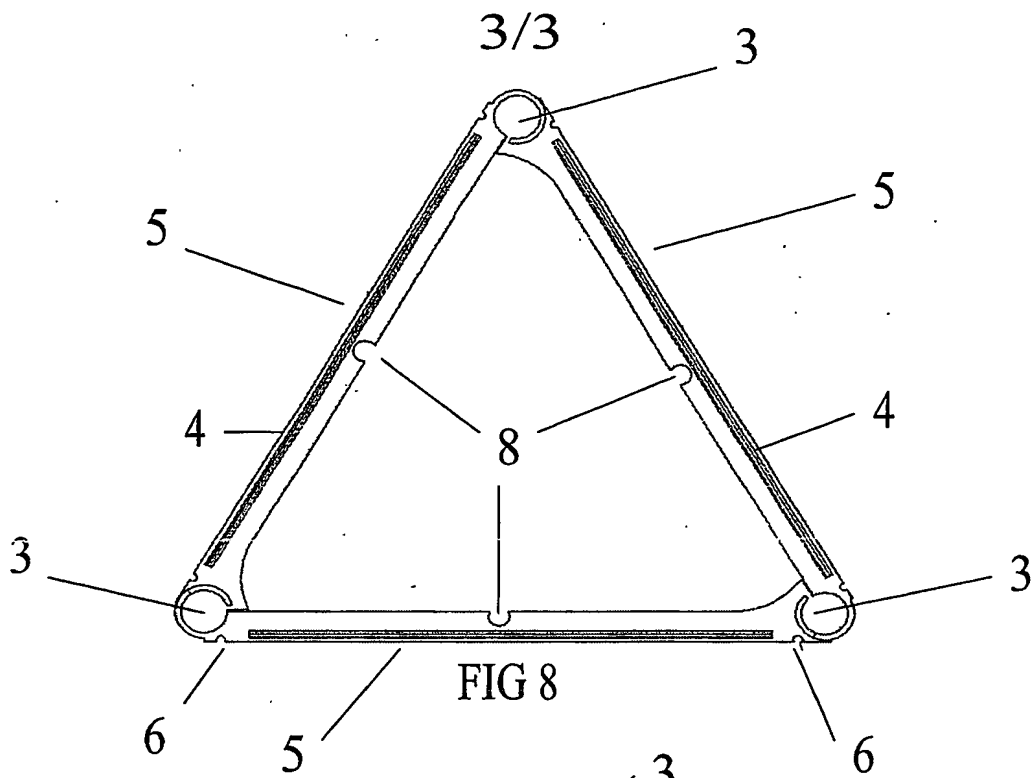
Preferably at the back of the display panel, 7 there are connection housings, 8 to accomodate support structures. For example to attach a panel or a display to a flat surface such as a wall, to support a free standing panel or a display structure in a fixed or mobile position, and to enable a panel or a display structure to be suspended.

Ideally mountable display panels and similar construction panels would be manufactured to suit a number of panel system sizes or size combinations that could be readily self-assembled.

Ideally, individual mountable display panels and their moulded interlockable couplings would be constructed as one-piece units from plastic materials by extrusion or injection moulding. Nevertheless, it may be preferable to also manufacture the mountable display panels and the interlocking panel couplings separately and to conjoin them by bonding or other means of attachment later as a separate process.

Mountable display panels and conjoined couplings could be produced in a variety of sizes, styles, colours, transparencies, textures and shapes to suit a wide range of display structures.





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